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States of Emergency: Education in the Time of COVID-19

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States of Emergency: Education in the Time of COVID-19

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Can Headteacher Autonomy Mitigate the Effects of COVID-19 School Closures in India?

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Summary
This paper uses data from a study of schools in India to examine how headteachers reacted to the COVID-19 school closures. We consider how differences in the decision-making autonomy of school leaders affect their confidence and coping strategies and explore how this may help mitigate the otherwise unequalising effects of the pandemic.

Keywords
Education
Autonomy
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In March 2020, the Indian government announced a strict lockdown in response to the COVID-19 pandemic, closing schools and other educational institutions for India's 320 million students (Sahni, 2020). Education at all levels remained suspended for much or all of 2020. In Andhra Pradesh (AP) and Telangana, schools remained closed until November 2020 (AP) and January 2021 (Telangana). Thus, children were out of the classroom for much of the 2020-2021 academic year, raising concerns about lack of learning (ASER, 2021) and growing inequalities on the basis of access to technology and parental support (Stewart, this issue).

This paper considers how schools in these two southern Indian states responded to this prolonged period of closure, and the extent to which headteachers exercised autonomy in decision-making to mitigate the effects on their students. It does so using telephone survey data collected from headteachers in July 2020, in combination with an existing dataset from the same schools in 2016-17. Both datasets were collected by 'Young Lives', a longitudinal study of childhood poverty conducted in four countries. Analysis of these data are used to address the following questions:

1. To what extent does autonomy influence headteachers' confidence in their ability to deal with the effect of school closures? Is this effect moderated by school management type?

2. How is headteacher autonomy associated with schools' strategies to cope with the closures and subsequent return to school? Is this moderated by school management type?

Questions of autonomy are relevant to consider in the context of the pandemic, where school leaders have been placed in an unfamiliar and uncertain position regarding

school closures and reopenings. Schütz et al. (2008) suggest that, internationally, increased autonomy within schools can improve equality of opportunity for children who might otherwise be disadvantaged because of socio-economic status. In the context of AP and Telangana, existing research indicates educational outcomes were highly unequal prior to the pandemic (Rolleston & James, 2015); with a heterogeneous education system characterised by multiple types of school management and an urban/rural divide (Singh A., 2015; ASER, 2018; Rolleston & Moore, 2018). As in many parts of India, government schools have been found to have lower learning outcomes than private schools (Kingdon, 2017; Rossiter et al., 2018), although once variation in student background and prior attainment are taken into account, such gaps are often less apparent (Muralidharan & Sundararaman, 2015; Singh A., 2015).

In addition, there is evidence of "student sorting" into different school types: Young Lives data from 2016-17 reveals that almost all (97%) students attending Tribal Social Welfare schools were from the most deprived caste groups (Scheduled Tribes and Scheduled Castes), compared to just eight percent in Private Unaided schools. Intake also differs by other background characteristics: 22% of State Government students and 26% of Tribal Social Welfare students have two parents who are illiterate; while for Private Unaided and Aided schools this figure is four and eight percent respectively (Moore et al., 2017). Table 1 details the school types covered by the Young Lives data.

Table 1. School types included in Young Lives' data

School type	Description (Aggarwal & Thakur, 2003)
State Government	Managed by state government; wholly state-funded. No tuition fees.
Tribal Social Welfare	Residential schooling for tribal / minority children. Managed by state government. No tuition fees.
Private Unaided	Managed by a trust, private organisation or individual; receive no funding from government. Charge tuition fees.
Private Aided	Managed by a trust, private organisation or individual; up to 95% of finances comes from government. May charge tuition fees.

Evidence from India and elsewhere suggests that variation in headteachers' decision-making autonomy may help explain some of the differences in learning outcomes between school types (Patrinos et al., 2009; Kingdon, 2017). In this paper, we explore the extent to which greater autonomy for headteachers offers other benefits in the context of the COVID-19 pandemic. We consider whether higher levels of autonomy may enable headteachers in AP and Telangana to mitigate some effects of the school closures on their students, thus potentially helping to address the predicted rise in educational inequality caused by the pandemic.

Data and methods

Two linked datasets are used: a school survey collected from 205 lower secondary schools in twenty mandals (sub-district regions) across AP and Telangana in 2016-17 (Moore et al., 2017); and a telephone survey conducted in July 2020 with 183 headteachers from the same sample of schools. Both datasets were collected by the Young Lives study. Linking the two surveys allows information collected on school characteristics (including headteacher autonomy) in 2017 to be used to examine what has happened in schools during the COVID-19 school closures.

Regression analysis is used to examine the association between headteacher autonomy in decision making and (1) confidence levels and (2) coping strategies during the pandemic. Autonomy is estimated using 1-parameter IRT from responses to six dichotomous items on decision making within the school (Table 2).

Table 2. Items in headteacher autonomy measure

Item	Does headteacher have responsibility for…
1	Hiring teachers
2	Firing teachers
3	Establishing teachers' salaries
4	Determining teachers' salary increases
5	Creating the school budget
6	Deciding where the budget is spent

Similarly, headteachers' coping strategies are estimated using 1-parameter IRT from responses to five dichotomous items (Table 3).

Table 3. School strategies for supporting a return to school

Item	Does the school plan to…
1	Make up for lost learning during school closures
2	Teach at weekends to catch up on missed learning
3	Teach during school holidays to catch up on missed learning
4	Add more hours to the school day to catch up on missed learning
5	Offer extra tuition for pupils most affected by the school closures

Headteacher confidence in their ability to deal with the effects of the school closures is estimated using principal components analysis from a three-item scale (Table 4).

Table 4. Items within the confidence scale

Item	Statement	Response options
1	Confidence that school can support student wellbeing during the closures	(1) Not confident at all (2) Somewhat confident (3) Very confident
2	Confidence that school can support students' learning during the school closures	
3	Confidence that students can catch up on learning lost due to school closures	

All three constructed variables (autonomy, confidence, strategies) are standardised to have a mean of 0 and a standard deviation of 1.

Within the regression analysis, we consider the effect of autonomy alone and the interaction between autonomy and school management type. This reflects the possibility that autonomy may have a different association with headteacher confidence and strategies depending on school type. We include controls for other school-level characteristics: average student maths and English attainment; average student wealth; school location and headteacher gender. Sampling weights have been used to support generalisability of results to all schools within the twenty sample mandals; while standard errors have been clustered at the district level to increase estimate reliability.

Findings

Table 5 presents the full regression output, with key findings from these analyses discussed below.

Table 5. OLS Estimates

Model outcome variable	Confidence (1)	Strategy (2)
Autonomy	-0.14*	0
	(0.07)	(0.04)
School type (Reference Category = Private Aided)		
Private Unaided	-0.66*	-0.47
	(0.34)	(0.45)
State Govt	-0.54***	-0.13
	(0.19)	(0.48)
TSW	-0.62**	0.28
	(0.25)	(0.43)
School type X autonomy (Reference Category = Private Aided x Autonomy)		
Private Unaided x Autonomy	0.17**	-0.18
	(0.08)	(0.13)
State Govt x Autonomy	0.46***	0.16
	(0.14)	(0.22)
TSW x Autonomy	-0.13	0.31***
	(0.21)	(0.09)
Clusters	**20**	**20**
Schools	**179**	**182**

Statistical significance denoted by: *** p<0.01; ** p<0.05; * p<0.1.

Standard errors clustered by locations (districts) are shown in parentheses.

Note: In addition to the model coefficients presented here, both model specifications also include the locality of school (urban/rural), school performance, average wealth index of students studying in the respective schools and the headteacher's gender.

Responding to the school closures: headteacher confidence and coping strategies

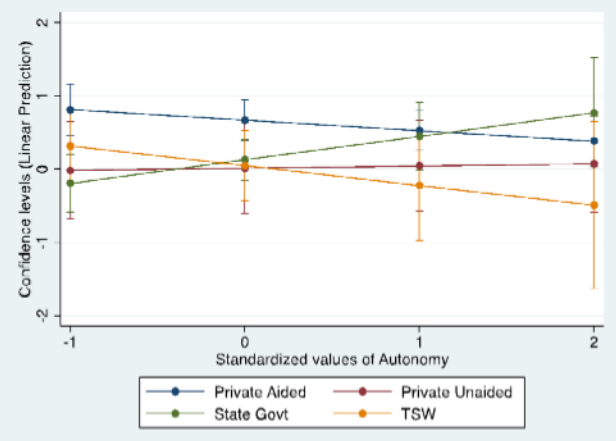
Headteacher confidence varies significantly by school management type. Headteachers in Tribal Social Welfare schools have the lowest confidence in their ability to support students during the pandemic, potentially because the more disadvantaged nature of their students makes support more challenging. Private Unaided headteachers also have lower confidence, while those employed within State Government schools have relatively high confidence in comparison to Private Aided (the base category).

Tribal Social Welfare headteachers are found to have a greater range of strategies through which to support their students in a return to school. This may relate in part to their largely residential nature, which potentially allows more flexibility in teacher and student time regarding regularly scheduled lessons. Private Unaided headteachers have the fewest coping strategies, although the difference here is not statistically significant.

Supporting decision-making: interactions between autonomy and school type

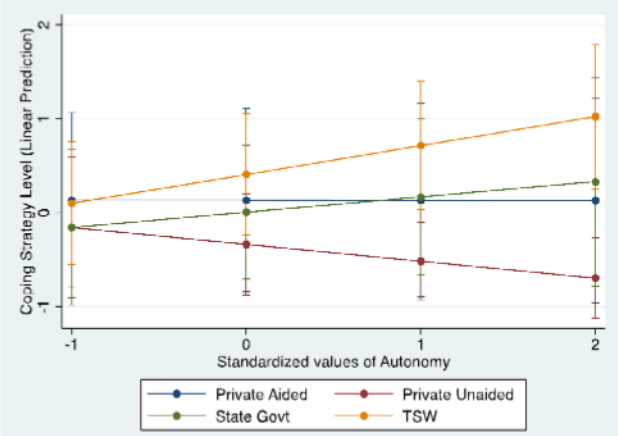
Investigating the influence of autonomy on confidence, strategies, and how this differs by school type, in State Government schools a strong positive association is found between autonomy and headteacher confidence. In this school type, a one standard deviation (SD) increase in autonomy is associated with confidence which is 0.46 SDs higher in comparison to Private Aided schools and 0.29 SDs higher in comparison to Private Unaided schools. This indicates that increasing headteacher autonomy in State Government schools is associated with greater confidence in ability to support students through the pandemic, as shown in Figure 1. For other school types, the relationship is weaker, or is not significant.

Figure 1. Association between headteacher autonomy and confidence, by school type



Higher autonomy has a large and significantly positive effect on headteachers' coping strategies in Tribal Social Welfare schools, and a smaller positive effect in State Government schools. For Tribal Social Welfare headteachers, a 1 SD increase in autonomy is associated with a rise of 0.31 SDs and 0.49 SDs in coping strategies compared to Private Aided and Private Unaided schools respectively. This suggests that, in these publicly funded school types, increased autonomy enables school leaders to develop better strategies to support students, while in Private Aided, and particularly Unaided schools, the association is negative or non-significant (see Figure 2).

Figure 2. Association between headteacher autonomy and coping strategies, by school type



Discussion

Stewart (this issue) describes how "[the] negative impact [of COVID-19] was unequalising across and within countries." Our analysis suggests that increasing headteacher autonomy may offer a potential means to mitigate this in AP and Telangana, supporting existing evidence that increasing school autonomy can help improve equality of educational opportunities (Schütz et al., 2008). An increase in decision making autonomy for headteachers in State Government schools is found to give them greater confidence in their ability to provide support during the pandemic and better coping strategies, allowing them to make decisions which are right for their students. Similarly, an increase in autonomy in Tribal Social Welfare schools is associated with a rise in coping strategies to support an equitable return to the classroom. With considerable evidence that these types of school are those most likely to be attended by girls, poorer children, those with less educated parents and from disadvantaged social groups (Härmä, 2011; Singh R. & Bangay, 2014), this is an important finding for equity. In comparison, in Private Unaided and Aided schools (typically attended by more advantaged students), an increase in headteacher autonomy has either no effect or a negative effect on headteacher confidence and strategies for return.

As Roy (2020) writes, "[historically], pandemics have forced humans to break with the past and imagine their world anew". Our analysis suggests one way through which this could happen in AP and Telangana as schools begin to re-open. The inequalities which existed in education in India even before the pandemic are well-documented (Alcott & Rose, 2017; ASER, 2017), while international evidence confirms that the worst-off have suffered most during the school closures (Stewart, this issue) and are anticipated to find it hardest to "catch up" (Outhred et al., 2020). Yet our findings indicate that increasing the decision-making autonomy of headteachers working in publicly funded (State Government and Tribal Social Welfare) schools may offer a low-cost way in which to support the most disadvantaged learners and potentially help to close these widening gaps. Prior to the pandemic, school leaders in these school types had the lowest levels of autonomy, with much decision making centralised at the state level (Kameshwara et al., 2019). We suggest that allowing headteachers within government-funded schools greater control over decision making would give them greater ability to mitigate the effects of the pandemic on students, enabling them to better utilise their knowledge of the context in which they work and offering a chance for a more equitable education system in the years ahead.

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